



Curriculum and Instruction: A 21st Century Skills Implementation Guide



Produced by

**PARTNERSHIP FOR
21ST CENTURY SKILLS**

To succeed in college, career and life in the 21st century, students must be supported in mastering both content and skills. This Implementation Guide presents state leaders, policymakers and/or district and school leaders with assessment tactics and examples to assist in statewide 21st century skills initiatives. The Partnership for 21st Century Skills has issued five brief, user-friendly guides, one for each of the P21 support systems:

1. Standards
2. Assessment
3. Professional Development
4. Curriculum & Instruction
5. Learning Environments



It is worth noting that these support systems are not merely ends, but means to a greater goal—to help children develop the cognitive, academic, emotional and physical competencies they need to succeed in 21st century life.

The Partnership recognizes that taking an aligned, comprehensive approach across all five support systems is a significant challenge for all educators. The Implementation Guides have been developed to help support this difficult work. While not every recommendation and example will apply to every state, we hope the resources will help jumpstart efforts to produce more capable, successful 21st century students and citizens.

All 21st century skills initiatives must focus on:

1: Core Academic Subject Mastery

It is important to note that no 21st century skills implementation can be successful without developing core academic subject knowledge and understanding among all students. Students who can think critically and communicate effectively *must build on a base of core academic subject knowledge*. For this reason, core academic subjects are a bedrock component of the P21 Framework for 21st Century Learning. All 21st century skills can and should be taught in the context of core academic subjects.

2: 21st Century Skills Outcomes

In addition to core subject mastery, the Partnership asks every state, district and school the following question: are schools helping students become...

- Critical thinkers?
- Problem solvers?
- Good communicators?
- Good collaborators?
- Information and technology literate?
- Flexible and adaptable?
- Innovative and creative?
- Globally competent?
- Financially literate?

To learn more about the Partnership's state initiatives, the Framework or the Implementation Guides, please visit **www.21stcenturyskills.org**.

Rationale

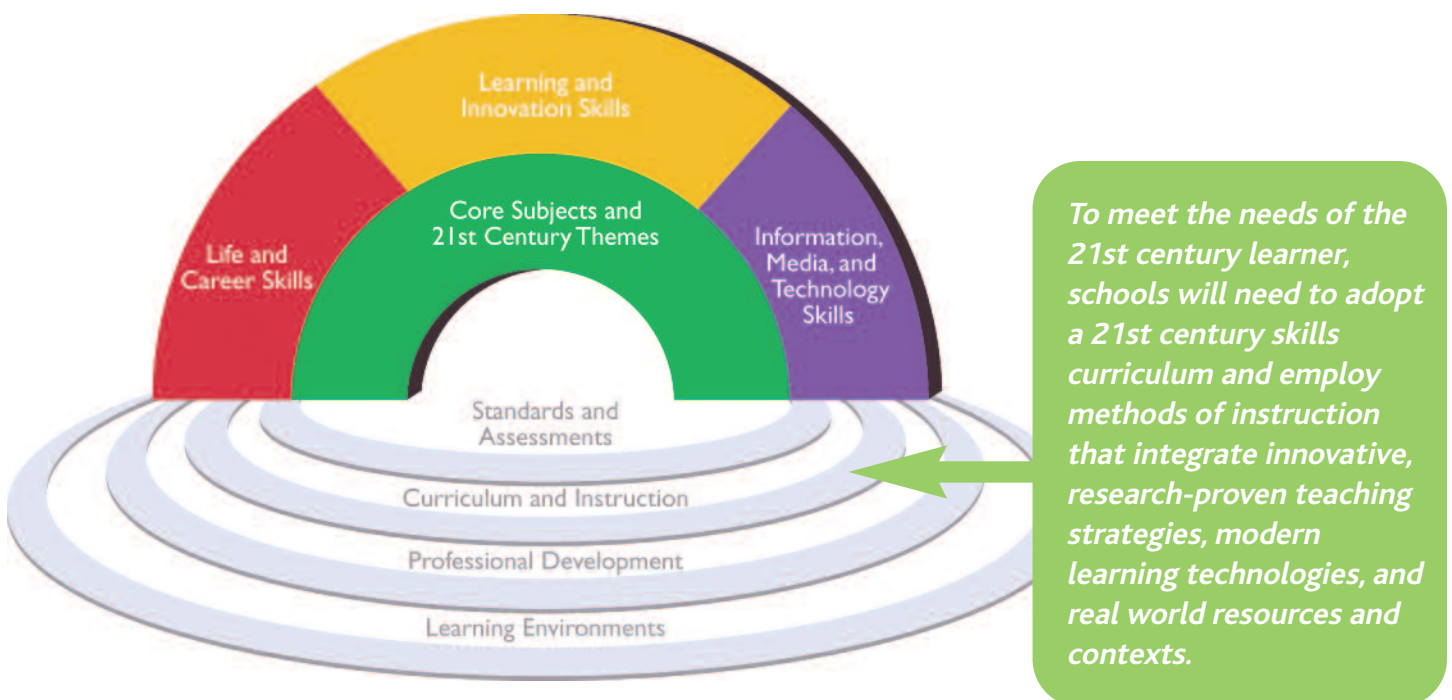
Our nation faces serious questions in regards to our educational system. The purpose of this document is to provide you with perspective on the key issues to consider—as a policy maker, as state leader, as a district or school administrator—to ensure that you are planning for the future and building strategies that will solidify the success of our students, not only in school and work, but in life.

What do we mean by 21st century skills? These are the skills students need to succeed in work, school and life. They include:

- Core subjects (as defined by NCLB)
- 21st century content: global awareness, financial, economic, business and entrepreneurial literacy, civic literacy and health and wellness awareness
- Learning and thinking skills: critical thinking and problem solving skills, communications skills, creativity and innovation skills, collaboration skills, contextual learning skills and information and media literacy skills
- Information and communications technology literacy
- Life skills: leadership, ethics, accountability, adaptability, personal productivity, personal responsibility, people skills, self-direction and social responsibility

Vision

Student mastery of 21st century skills should be recognized as one of the most critical outcomes of the teaching and learning process. Therefore, it is necessary to develop and implement curriculum and instructional strategies that—by design—enhance these skills.



Guiding Recommendations, Promising Directions

The following action steps can be taken to move states, districts and schools towards ensuring that our nation's students will be prepared for success in the 21st century.¹

Curriculum: Guiding Recommendations	Promising Directions
<p>#1. Develop curricula for understanding. Ensure that curricula are designed to produce deep understanding and authentic application of 21st century skills. This by definition will enable the development of 21st century skills; curricula should include models for appropriate learning activities that accomplish 21st century skills outcomes.</p>	<p>New Technology High School: Students learn in an innovative and professional environment fostered by the use of advanced learning methods and technology. Both staff and students understand the commitment necessary to implement a rigorous and relevant curriculum, one in which technology standards and skills development are embedded. http://www.newtechhigh.org/</p> <p>RxeSEARCH: An Educational Journey is a STEM-related curriculum used in over 40 high schools in New Jersey, New York, Connecticut, Massachusetts, Pennsylvania and Iowa. It teaches the understanding of research and development principles and processes, and prepares for knowledge transfer from school to work. Students draw from their core subject knowledge and apply it in simulated experiences (e.g., epidemics and performing research to develop new cures.)</p>
<p>#2. Unpack the standards to articulate essential concepts and skills. Use curricula to articulate the essential understandings and 21st century skills contained within the standards. Ensure all curricula materials (curriculum guides, model units) clearly identify the big ideas and 21st century skills as the goals for learning.</p>	<p>The Iowa Core Curriculum (ICC) defines the essential knowledge and skills that each student must learn to succeed in postsecondary life. The ICC includes content areas such as literacy, math, science and social studies and 21st century skills like civic, health, financial and technology literacy. In conjunction with the core curriculum, Iowa has created a framework that sets standards for teaching academic subjects to maximize rigor, increase student engagement, support in-depth coverage of material, and equip students with the skills required to prosper in today's world. http://www.corecurriculum.iowa.gov/</p> <p>The Delaware Department of Education has developed Standards Clarification Documents for the various subject areas in which the state standards have been "unpacked" around Enduring Understandings and Essential Questions. http://www.doe.k12.de.us/infosuites/staff/ci/default.shtml</p> <p>Henrico County Public Schools in Virginia has pursued a multi-year process to create and improve curriculum maps around 21st century learning. The process and samples are described here: http://bionicteaching.com/?p=1129</p>
<p>#3. Build widespread consensus around the big ideas and essential questions. Involve educators and stakeholders at all levels to ensure the big ideas, essential questions and enduring understandings—particularly those that emphasize 21st century skills—are supported and understood.</p>	<p>North Carolina's "Future Ready Students" initiative is reflected in the State Board of Education's mission: to enable every public school student to graduate from high school, globally competitive for work and postsecondary education and prepared for life in the 21st century. This statewide vision frames the collaborative efforts between education, business and community leaders to improve teaching and learning, and informs the state's 21st century skills work in standards, professional development, curriculum and assessment.</p>

¹ Many of the principles outlined in this document have been detailed by Linda Darling-Hammond, John Bransford and Jay McTighe and Grant Wiggins in relation to teaching and learning for understanding. See resource list.

Curriculum: Guiding Recommendations	Promising Directions
<p>#4. Use curriculum-embedded, performance-based assessments. Design and implement curriculum-embedded, performance-based assessments that are integrated and aligned with the state accountability system.</p>	<p>The Grand Island, Nebraska Public School district has developed K-12 Curriculum maps for subject areas. The maps contain overarching Understandings and Essential Questions. In addition, the maps include curriculum-embedded performance assessments for the various subject areas. http://www.gips.org/ (From the HOME PAGE, click on "Learning", then "Curricular Areas" then, "Course/grade level maps", "enduring understandings", "essential questions" and "philosophy and beliefs.")</p>
<p>#5. Commit to continuous improvement in 21st century curriculum design processes. Commit to an ongoing process of reflecting upon and revising curricula with the purpose of improving the teaching and learning of 21st century skills over time.</p>	<p>The Virginia Beach City, Virginia Public School district has an ongoing process of curriculum development and review. The curriculum is built around Understandings and Essential Questions, and includes curriculum-embedded performance assessments that integrate 21st century skills with academic content.</p>
<p>#6. Collaborate. Educators should initiate meaningful partnerships with key stakeholders, content developers and curriculum providers to ensure a wide range of instructional products are designed to produce 21st century skills outcomes.</p>	<p>New Jersey is partnering with several professional associations on a year-long project to create an exemplar curriculum that incorporates 21st century skills in each content area. These exemplars will be accessible to all school districts upon completion, including workshops supporting effective implementation of these curricular models.</p>
Instruction: Guiding Recommendations	Promising Directions
<p>#1. Use "Teach for Understanding" principles. Develop and deliver lessons and units that connect the most essential concepts and skills students need to know and do; this means avoid teaching disparate, unconnected facts which inhibits the development of critical thinking, problem solving and other 21st century skills. Coach students to progress from teacher-guided experience toward independent application, interpretation and explanation.²</p>	<p>Science Leadership Academy (SLA), Philadelphia, Pennsylvania: The Science Leadership Academy is a partnership high school between the School District of Philadelphia and The Franklin Institute. SLA is an inquiry-driven, project-based high school focused on 21st century learning. http://www.scienceleadership.org/drupal/</p> <p>High Tech High, California: Curriculum at HTH schools is framed around answering questions and solving problems. Students work in teams to study questions and themes that cut across academic disciplines. http://www.hightechhigh.org/</p> <p>Intel® Teach Elements: These short courses provide deeper exploration of 21st century learning concepts focusing on project based learning approaches. http://www.intel.com/education/elements/index.htm</p> <p>ASCD Healthy School Communities: This effort serves as a community-building resource for schools and communities that work together to create healthy environments that support learning and teaching. http://www.healthyschoolcommunities.org</p>

² Brown, 2004

Instruction: Guiding Recommendations	Promising Directions
<p>#2. Create meaningful opportunities for student demonstration/mastery of 21st century skills. Ensure that students have real-world opportunities to synthesize, apply and demonstrate their mastery of key concepts and 21st century skills.</p>	<p>North Carolina is piloting a science class on genetic counseling that uses curriculum-embedded assessments; students learn the science behind genetics and apply this knowledge to patient counseling scenarios. Skills like communication, information literacy and collaboration are intentionally taught, honed and assessed in an integrated fashion, within the context of the science class.</p>
<p>#3. Deliver learner-centered instruction that enables 21st century skills. Commit to meeting the unique 21st century skills needs of each student. Connect curriculum to learners' experiences and frames of reference to build upon each student's knowledge and experience and help them systematically expand their abilities and master new concepts and proficiencies.³</p>	<p>Maine's "Creating the Conditions for All Students to Graduate Post-Secondary, Career, and Citizenship Ready for the 21st Century" project focuses on creating a standards-based education system that emphasizes personalization. In this system, students do not move onto the next level of learning until they demonstrate proficiency as measured by the standards.</p>
<p>#4. Reflect, refine and improve 21st century skills instruction. Educators should develop personal learning communities (and advocate for the school-wide time and support for them); use PLC's to reflect and refine instructional methods that enhance 21st century skills mastery in classroom practice.</p>	<p>West Virginia conducts extensive programs (spanning over 7 months) to engage educators in designing authentic, engaging units that incorporate big ideas and 21st century skills. The Department of Education brings teachers together for in depth peer review sessions that strengthen the overall quality of their 21st century skills units and assessments. Just as important, these sessions provide teachers time to share their thinking and learning with peers to enhance their personal learning communities/networks.</p>

³ Hammond, Linda Darling, p. 198

Resources

The Partnership for 21st Century Skills has compiled the following list of resources to provide you with background knowledge, models and best practices in the various areas of curriculum and instruction, as well as a list of key expert contacts.

21st Century Skills Maps In collaboration with the national content area organizations, the Partnership for 21st Century Skills has developed a series of 21st Century Skills Maps illustrating the intersection between 21st century skills and core academic subjects including English, social studies, geography and mathematics. These maps provide educators with short idea-generating examples of how these skills can be integrated into core subjects while making the teaching and learning of core subjects more relevant to the demands of the 21st century. http://www.21stcenturyskills.org/index.php?option=com_content&task=view&id=31&Itemid=33

ASCD <http://www.ascd.org>

Bransford, John. *How People Learn*. Washington: National Academy Press, 2000.

Brown, John L. *Making the Most of Understanding by Design*. ASCD 2004.

Darling-Hammond, Linda. *Powerful Learning: What We Know About Teaching for Understanding*. San Francisco: John Wiley & Sons, Inc., 2008

Wiggins, Grant and Jay McTighe, *Understanding by Design*. 2nd Ed. ASCD, 2005.

Wiggins, Grant and Jay McTighe, *Schooling by Design* ASCD, 2007.

A complete updated list of available references, including reports, state initiatives, white papers and more are available at **www.21stcenturyskills.org**.

Free White Paper on 21st Century Skills Curriculum and Instruction

Download "21st Century Curriculum and Instruction" from the Partnership for 21st Century Skills website at http://www.21stcenturyskills.org/documents/21st_century_skills_curriculum_and_instruction.pdf.

About the Partnership for 21st Century Skills

The Partnership for 21st Century Skills has emerged as the leading advocacy organization focused on infusing 21st century skills into education. The organization brings together the business community, education leaders and policymakers to define a powerful vision for 21st century education to ensure every child's success as citizens and workers in the 21st century. The Partnership encourages schools, districts and states to advocate for the infusion of 21st century skills into education and provides tools and resources to help facilitate and drive change.

To learn more about 21st century learning and state actions to date, visit **www.21stcenturyskills.org**.

Copyright © 2009. The Partnership for 21st Century Skills. All rights reserved.